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Subject: Gypsy Moth Management on the Monongahela National Forest

To: Forest Supervisor *Chuck*
Monongahela National Forest

Infestations of the gypsy moth, Lymantria dispar, became a major ecological disturbance factor threatening the oak forests of the Monongahela National Forest (MNF) for the first time earlier this decade. How we collectively responded to this threat and what we learned that could be applied to a future threat is the subject of this memorandum.

Gypsy moth defoliation on the MNF lasted from 1990 through 1995 when major epizootics of the gypsy moth fungus and virus contributed to the widespread collapse of those infestations. Damaging gypsy moth infestations failed to return in 1996 and egg mass surveys indicate a continuation of this low, background density at least through 1997.

Two Northeastern Area Staffs have worked with the Monongahela NF staff to manage gypsy moth. Gypsy moth management from 1990 through 1992 involved intervention tactics (insecticides and pheromones) applied as pilot tests under the Appalachian Integrated Pest Management (AIPM) Gypsy Moth Demonstration Project. AIPM was intended to prevent first time defoliation from the building populations and to slow the spread of concentrated low density populations south and west through West Virginia. The Forest Health Protection Staff, Morgantown, WV, has assisted the Monongahela NF Staff since 1993 when gypsy moth management shifted from intervention to direct suppression applied operationally to infestations threatening forest resources.

While gypsy moth management is the responsibility of the MNF Forest Supervisor, we provide the technical assistance required to achieve the goals of effective and ecologically acceptable management. The technical assistance we can provide in gypsy moth management includes documenting spray project effectiveness in detail. This documentation will help support your future decisions about gypsy moth spraying because gypsy moth management remains an important aspect of implementing the goals and objectives of your MNF Land and Resource Management Plan.

With respect to documenting effectiveness of the MNF's gypsy moth suppression with biological insecticides, we recently completed the two enclosed reports which you and your staff involved with gypsy moth management should find useful as planning documents---"Monongahela National Forest Atlas of Gypsy Moth Treatments and Defoliation, 1990-1995" and "History of Gypsy Moth Management on the Monongahela NF, 1993-1995". The atlas is intended as a reference for understanding where defoliation from the recent gypsy moth

infestations have threatened oak resources and where gypsy moth suppression has been conducted on the MNF. How the MNF managed the infestations and what was learned about the operational effectiveness of the biological insecticides used is contained in the history report. Both reports provide the accountability for these operational spray projects. Accountability has been achieved through the computerized Gypsy Moth Treatment Monitoring Data Base (GMTMDB) which was developed and implemented by FHP, Morgantown.

The recommendations for future gypsy moth spraying contained in the last-named report were possible only because we all paid attention to details required by GMTMDB during and after the spraying. For this, we recognize Gary Bustamente's tireless efforts. Additionally, GMTMDB gave us an analytical tool to manage project details. The recommendations contained in the history report if followed should help ensure successful management of any future gypsy moth infestations which threaten resources on your Forest.

With respect to ecologically acceptable management of gypsy moth infestations through spraying, we all realized during the NEPA process that there were certain environmental issues associated with the proposed treatments that could not be resolved without further information. These specifically dealt with potentially altering the biodiversity of selected non-target arthropods likely to be affected by Bacillus thuringiensis var. kurstaki sprayed against the gypsy moth. The non-target species of greatest interest were moth species of special concern under the R-9 T&ES and the WVDNR Natural Heritage Programs. The MNF had two goals in their ecosystem management approach: reduce the threat posed by gypsy moth infestations and at the same time reduce the risk to non-target insect biodiversity.

The previous MNF Forest Supervisor made two decisions that allowed the MNF to achieve both of those gypsy moth management goals. First, the gypsy moth specific virus product Gypchek was to be used extensively wherever a certain non-target moth species of special concern was considered likely to be in Btk spray blocks. Gypchek was also used where reduced adult moth abundance may adversely affect food supply of the Federally Listed T&E Virginia big-eared bat. Second, two major surveys were initiated under challenge cost-share agreements between the MNF and the Carnegie Museum of Natural History (CMNH). Each survey was to authenticate the presence of the non-target insect species of special concern and document the biodiversity of other selected groups of non-target insects in ecosystems typical of the Potomac and Cheat Ranger District. We understand that the reports from these agreements are to contain a large amount of detailed data about non-target insect species occurrences, their correlations with plant species, and larval phenology of non-target moths. Submission of the reports to you in the near future is pending completion of certain details in the correlation analyses. Adapting the information contained in the CMNH reports to the Ecological Land Types (ELT) on your Forest should provide a more factual basis for predicting non-target species presence in a given spray area. As your Forest Planning process goes forward, please keep in mind that Bob Acciavatti of my staff is available to assist your Ecosystem Management Staff in such work.

I am sure you agree that we have learned much about gypsy moth management on the MNF during this past several years. The challenge is to incorporate all we have learned into the planning process for any future gypsy moth management. If you have questions or would like to discuss any aspect of these reports, please contact us.



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Enclosures

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